Exhibit P-40, BUDGET ITEM JUSTIFICATION	N							DATE:				
										February 2004		
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOME	NCLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Mo	difications							E-6	Series Modifica	ations		
Program Element for Code B Items:						Other Related	Program Elem	ents				
	Prior	ID								То		
	Years	Code	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total	1
QTY		A									0	
COST (In Millions)	779.8	A	56.1	48.2	19.7	11.5	17.6	59.7	69.2	232.5	1,294.1	

This line item funds modifications to E-6 "Take Charge and Move Out", TACAMO aircraft. The E-6A TACAMO is a manned airborne communications relay platform designed to provide a survivable, reliable, endurable airborne command and control communications link between the President, Secretary of Defense and U.S. strategic and non-strategic forces. The Navy and Air Force were directed to take actions necessary to incorporate Airborne Command Post (ABNCP) (OSIP 32-93) functions into the E-6A, which were completed in FY03. For FY04 and FY05, OSIP 32-93 will complete the additional requirements of the ADWS Program. The Multifunction Display System (MDS), OSIP 27-99, was approved as the solution to maintaining worldwide deployability due to changing Global Air Tartific Management/Global Air Navigation System standards. The Modified Miniature Receiver Terminal (MMRT), OSIP 10-01, began installs in FY02 to enhance command and control of the strategic forces. OSIP 07-02 corrects Safety and Follow On Test & Evaluation (FOT&E - Sep 98) deficiencies by replacing the Milistar Tactical Terminal Access Control (TAC) battery, upgrading the Aircraft Frequency Auto Parallel Unit (FRAPU) to allow proper power transfer from/to ground/aircraft power, updating the design of and fabricating new rewind machines and purchasing "off-the-shelf" power carts to provide adequate aircraft power for full mission checkout. OSIP 08-02 started in FY02 and includes a smoke detection system, replacement of fuel tank Kapton wiring and replacement of an uncertified Cartridge Activated Device (CAD) (explosive) for severing the Long Trailing Wire Antenna in emergencies. Technology Insertion (OSIP 03-04) addresses supportability, new technologies, systems updates and interoperability issues in the areas of: Mission Computer Set (MCS) hardware obsolescence, Video C4I for live Battlestaff conferencing, Morse code to ASCII text conversion, and the installation of Range Mode Extension in the MMRT for VLF community compatibility, OSIP XX-07, Service Life Exten

OSIP No.	Description	Prior Years	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Total
32-93	E-6B Mod	683.8	15.0	6.5	4.9						710.2
27-99	Multifunction Display System	87.4	28.1	28.5	10.7						154.7
10-01	E-6B Modified Mini Rcv Terminal	7.9	3.5	4.1							15.5
07-02	E-6 Mission Support	0.3	6.5	2.8		3.8	3.3	6.4	1.7		24.9
08-02	Safety Deficiencies	0.4	3.0	4.2	2.3	1.5	1.0	0.9	1.2		14.5
03-04	Tech Insertion			2.1	1.8	6.1	6.5	2.0	2.6		21.1
XX-07	SLEP						6.7	14.1	12.9	60.8	94.4
XX-08	Mission Deficiencies (Block I)							36.2	50.9	171.7	258.8
Total	E-6A Series	779.8	56.1	48.2	19.7	11.5	17.6	59.7	69.2	232.5	1,294.1

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	E-6B Modifications (OSIP 32-93)			
MODELS OF SYSTEMS AFFECTED:	E-6A/E-6B		TYPE MODIFICATION:	Capability

DESCRIPTION/JUSTIFICATION: Mission Needs Statement: E-6A TACAMO/Airborne Command Post (ABNCP) Consolidation Program, MO-40-88-93, dated 22 Sep 93, substantiates the transfer of avionics equipment from the Air Force EC-135 ABNCP platform to the Navy E-6A TACAMO aircraft. This program consolidates Joint Chiefs of Staff (JCS) Strategic Command and Control tasking into one survivable airborne strategic platform and achieves significant operations and maintenance savings of at least \$50M annually. The addition of the ABNCP mission to the TACAMO aircraft results in one platform having the ability to relay Emergency Action Messages from the President and Secretary of Defense to U. S. Strategic Forces and for COMSTRAT to directly execute command and Control to those forces. Operational Requirements Document (ORD) 389-88-98, revised 14 Aug 98, supports modifications for the High Power Transmit Set, original ABNCP avionics systems and MILSTAR capabilities. These are encompassed in ECP CTAS-100R3. ORD 389-89, revised 14 Aug 98, incorporates newly identified requirements, including approved ECP RCS-100R1 for Voice Satellite (VOSAT) Communications and Engineering Change Proposals (ECPs) for Cryptographic (CRYPTO) equipment upgrades, Ultra High Frequency (UHF) Demand Assigned Multiple Access (DAMA) installation, Automated Data Processing Capability (ADP) and Weight Savings. VOSAT capability is a voice recognition system that is required by COMSTRAT for uncompromised communications. CRYPTO upgrade is required by COMSTRAT to ensure ABNCP receipt and distribution of encrypted messages in accordance with relay timing parameters. UHF DAMA is required for communications across the spectrum of Command and Control responsibilities. ADP capability to receive and generate encrypted and classified correspondence. The weight removal is required to offset the effects of other modifications on zero gross fuel weight parameters. The ADP, UHF DAMA and Weight Savings requirements are combined into the ADWS program and will apply to all 16 E-

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone III decision on ABNCP modifications granted January 1995. Milestone III decision for Avionics Upgrade and HPTS granted December 1995. FOT&E completed June 1998. Initial Operating Capability (IOC) date of 1 October 1998 was met. September message from COMSTRAT delineated additional requirements and associated program cost growth resulted in E-6 program restructure with ABNCP Full Operating Capability shifting from January 2001 to February 2003. All ABNCP aircraft modifications have been completed. IOC for VOSAT modification was met 1 October 1998 and IOC for CRYPTO was met 1 July 2000. TACLANE Crypto will be completed by end of FY05. A contract was awarded for the ADWS program September 2000 with installation planned to be completed by end of FY05. E-6B Modification ADWS Program was extended to increase A/C availability, reduce fleet A/C configurations, reduce logistics costs, increase operational flexibility, maximize production effort and allow trainer modifications to be done concurrently.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior			2003		2004	FY 2		FY 2		2007		2008		2009		mplete		otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E	1	107.3																1	107.3
PROCUREMENT																			
Installation Kits																			
HPTS Kit	16	19.7																16	19.
ABNCP Kit	15	55.9																15	55.
VOSAT Kit	16	0.3																16	0.
CRYPTO Kit	16	1.1																16	1.
SIL Kit	1	0.4																1	0.
LAB Kit	1	0.1																1	0.
ADWS Kit	16	10.6																16	10.
Installation Kits N/R		49.5																	49.
Installation Equipment																			
HPTS/CFA Equip	18	139.3																18	139.
ABNCP Equip	15	31.1																15	31.
VOSAT Equip	16	2.2																16	2.
CRYPTO Equip	16	0.4																16	0.4
Lab Equipment	1	*																1	
ADWS Equipment	16	10.5																16	10.
SIL Equipment	1	0.4																1	0.
MILSTAR Equip	7	38.1																7	38.
HPTS TIMING DIV Equip	19	5.8																19	5.
SDRS Equip	1	0.6																1	0.
TACLANE			4	*	8	0.1	7	0.1										19	0.
Installation Equipment N/R		30.5																	30.
Engineering Change Orders																			
Data		23.2																	23.
Training Equipment	12	41.8																12	41.
Support Equipment		6.3		0.7		1.0													7.
ILS		19.8		*															19.
Other Support		110.4		3.5		0.6		0.6											115.
Interim Contractor Support		1.1									<u> </u>			<u> </u>					1.
Installation Cost	77	85.0	7	10.8	7	4.8	5	4.2				,				,		96.0	104.
Total Procurement		683.8		15.0		6.5		4.9											710.

- 1. Totals may not add due to rounding
- Asterisk indicates amount less than \$50K
- 3. 1 ABCNP Prototype Kit procured in R&D.
- 4. Installation quantities include HPTS and ABNCP kits separately to account for kit purchases although they were combined for installation purposes in 1996.

<u>xh</u> ibit P-3 a IODELS OF	SYSTEMS	AFFECTE	ED:	E-6A/E-6	6B					-	MOE	IFICATIO	N TITLE:	E-6B Mod	difications (OSIP (32-9	93)					
NSTALLATIO	N INFORM	IATION:																				
METHOD OF	IMPLEMEN	NTATION:												Contract	or Drive-in/	Field Modif	fication					
DMINISTRA	TIVE LEAD	TIME:			1		Months	<u>.</u>			PRODU	CTION LI	EADTIME	:		Varies			=			
ONTRACT I	DATES:	FY 2003:					_		FY 2004:					_	FY 2005:					_		
ELIVERY D	ATE:	FY 2003:			FY 2004 FY 2005																	
			•						•				(\$ in M									
	Cost:			Years FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL \$ Qty \$ Qty																		
F)/ 00000	0.00/ (00)	1.74	Qty	•	\$ Qty											\$	Qty	\$	Qty	\$		\$
	& PY (80) I	kits	62	79.4	1 7	10.8	8 6	3.8	5	4.2		<u> </u>	-				-				80	98.
FY 2003	.,				 	1	1			1	1	1	1	1	1		1	1	1	1	1	1
FY 2004					 	 	1			 		1	-	 			1	 		 		
FY 2006																						
FY 2007					1		1										1					
FY 2008																						
FY 2009																						
To Com	olete () kits																					
TOTAL			62	79.4	. 7	7 10.8	6	3.8	5	4.2											80	98.
	al quantities		ars do not	include 1	z trainers	s, 2 Labs ar	na 2 SILs															
	FY 2002		FY 2	003			FY:	2004			FY	2005			FY	2006]				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In	15			1]				
Out	14			1		1]				
																	_					
		FY 2		1			2008			FY 2			1	Го								
	1	2	3	4	1	2	3	4	1	2	3	4	Com	nplete	•	TAL	4					
			1	l	1		1	1	l	1	ı	1	1			16	1					
In Out	- I				1	1	1			1		+	1			16	-					

ABNCP Installation Schedule

		FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY:	2006	
_		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Ī	ı	15			1													
(Out	14			1		1											

		FY 2	007			FY 2	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

VOSAT Schedule

	FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	15			1													
Out	14			1		1											

		FY 2	007			FY 2	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

CRYPTO Installation Schedule

	FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	15			1													
Out	15			1			_				_		_				

		FY 2	007			FY 2	2008			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

ADWS Installation Schedule

	FY 2002		FY 2	.003			FY 2	2004			FY 2	2005			FY	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2		1		2	1	1	2	2	1	2	2					
Out			1	1	1	1	1	2	1	2	2	2	2				

		FY 2	2007			FY 2	2008			FY 2	2009		To	
	1	1 2 3			1	2	3	4	1	2	3	4	Complete	TOTAL
In	1 2 3													16
Out														16

xhibit P-3a	Individual Modification

MODIFICATION TITLE: Multifunction Display System (OSIP 27-99)

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) 389-88-98, revised 14 Aug 98, requires installation of the Multifunction Display System (MDS). Current and future changes to Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) required by Federal Aviation Administration/International Civil Aviation Origination (FAA/ICAO) are satisfied by the installation of the MDS. Modifications to E-6 cockpit display system are required due to changes in the FAA/ICAO Required Vertical Separation Minimums and other airspace restrictions. Analog gauges are becoming natiquated and difficult to maintain and require replacement in order to meet these and upcoming navigational changes. Incorporation of MDS into the cockpit will replace over 100 dials and gauges with integrated display screens that are customizable for the E-6. The MDS requires modification of a Commercial Off-the-Shelf (COTS) item to an E-6 configuration. Because it is similar to commercial equipment, any further modifications will be less costly. Upgrades to installed systems and changes to Mission Computer Systems can then be accomplished by changing software without changing the hardware. The MDS program has been restructured to increase A/C availability, reduce fleet A/C configurations, avoid \$16M logistics costs, increase operational flexibility, maximize production effort and allow trainer modifications to be done concurrently. GPS-A receiver controls are required to support currently installed military GPS receivers. Nav Table update gives the Navigator Station the ability to provide services during a degraded mission, and to support the E-6 Mission Commander and Battlestaff.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: MDS was granted a Milestone III decision on 5 May 1998. Contract award September 9, 1999. Specific and separate Non-Recurring Engineering (NRE) efforts for systems integration of COTS hardware/software occurred in the first two years. Production of NRE COTS article for E-6 configuration began October 2000 with subsequent installation and testing in February 2001. Production deliveries/installations funded through September 05. Funding provided via Program Decision Memorandum (PDM)-1 requires partial spread of NRE efforts. Cost growth from original estimates allows for 1 NRE A/C Kit/Installation, 15 Production A/C Kits/Installations and 1 Operational Flight Trainer Kit/Installation. Initial Operating Capability scheduled for March 2004. Increased cost and schedule requirements for modification of the Operational Flight Trainer (OFT) have required a Milestone Decision Authority (MDA) approved change #2 to the Acquisition Program Baseline (APB). This modification, approved 14 May 2001, provided additional funding for OFT #1 (by delaying aircraft modifications) and cut funding for OFT #2 in FY04 (funding to be used to complete remainder of aircraft modifications.) Subsequent program restructure and TOA realignment provides full funding for the program with Full Operational Capability (FOC) planned for 4thQ FY05. GPS-A receiver controls will be procured in FY03 and FY-04. The Nav Table Update NRE will start in FY04 with kit procurements and installations in FY04 through FY05.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2003	FY	2004	FY	2005	FY:	2006	FY:	2007	FY	2008	FY:	2009	To C	omplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
Nav Update					16	0.8													16	0.8
MDS Kit	8	6.4	1	0.8	7	5.3													16	12.4
Installation Kits N/R		20.9		0.5		0.6														21.9
Installation Equipment																				
MDS Equip	8	46.1	1	9.1	7	10.3													16	65.5
Nav Update					16	1.6													16	1.6
GPS "A"			6	0.1	10	0.2													16	0.3
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.5																		0.5
Training Equipment		2.3	2	7.7	1	1.1													3	11.1
Support Equipment		*		0.1		*														0.2
ILS		1.3		0.1		0.1		0.1												1.6
Other Support		4.6		2.5		3.2		1.1												11.4
Interim Contractor Support																				
Installation Cost	2	5.4	5	7.2	16	5.3	12	9.6											35	27.4
Total Procurement		87.4		28.1		28.5		10.7	,			·								154.7

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Trainer installation include; two in FY03, one in FY05

hibit P-3a																						
DDELS OF SYS	STEMS	AFFECT	ED:	E-6A/E-6	6B			_	MOD	IFICATIO	N TITLE:	Multifund	tion Disp	lay Syste	em, Nav	Update (OSIP 27-	99)				
STALLATION IN	NFORM	MATION:																				
ETHOD OF IMP	PLEMEN	NTATION	l:										Contracto	r Drive In I	Modification ()	n						
MINISTRATIVE	ELFAC	OTIMF:	•	1	Months				PRODU	CTION LE	ADTIME:			Various		Months					·	
		- 1 IIVIL.				•						•		7411043			<u>-</u> '					
ONTRACT DAT							r-03		-	FY 2004:			ous			FY 2005:					_	
LIVERY DATE	i:		F	FY 2003:		Au	g-04		-	FY 2004:		Vari	ious			FY 2005:					_	
Co	ost:		Prior `	Years	FY 2	2003	FY	2004	FY	2005		Millions 2006		2007	FY:	2008	FY 2	2009	То С	omplete	TOTAL	
**			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2002 & PY		s	2	5.4	3	5.0	3														8	12.4
FY 2003 (1) ki							1														1	0.7
FY 2004 (23)							12	2.6	11	5.1											23	7.7
FY 2005 () kit								 													 	
FY 2006 () kit								1													+	
FY 2007 () kit FY 2008 () kit																					 	
FY 2009 () kit																					 	
To Complete (1 1	
TOTAL	.,		2	5.4	3	5.0	16	5.3	11	5.1											32	20.7
GPS"A" does MDS Installatio	on Sche				ion.																	
FY 2	กกาว		EV 2																			
	_			003				2004			FY 2					2006		1				
	Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	FY 2	2006	4					
ln 2	_	1	2	3	2	1	2	3	2	1	2	3		1			4					
	Prior	1	2				2	3			2	3	2	1			4					
ln 2	Prior		1 1	3	2	1	1 1	3	2	1 2	2 2 2	3	2				4					
In 2 Out	Prior	1 FY 20 2	1 1	3	2	1	2	3	2	1	2 2 2	3	2 T	1 To plete	2		4					
In 2 Out	Prior 2	FY 20	2 1 1	1	1	1 1	2 1 1	2 2	1	1 2 FY 2	2 2 2	2 2	2 T	ō		3	4					
In 2 Out	Prior 2	FY 20	2 1 1	1	1	1 1	2 1 1	2 2	1	1 2 FY 2	2 2 2	2 2	2 T	ō	TO 1	3 TAL	4					
In 2 Out	Prior 2	FY 20 2	2 1 1 07 3	1	1	1 1	2 1 1	2 2	1	1 2 FY 2	2 2 2	2 2	2 T	ō	TO 1	TAL	4					
Out 2	Prior 2	FY 20 2	2 1 1 07 3	1 4	1	1 1	2 1 1 2008 3	2 2	1	1 2 FY 2	2 2 2	3 2 2 2	2 T	ō	TO 1	TAL	4	1				
In 2 Out 1 In Out 1 In Out FY 2	Prior 2	FY 20 2	2 1 1 07 3	1 4	1	1 1	2 1 1 2008 3	3 2 2 2	1	1 2 FY 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 2 2 2	2 T	ō	TO 1	TAL 66	4					
In 2 Out 1 In Out 1 In Out FY 2	Prior 2	FY 20 2	2 1 1 007 3	1 4 4 0003	1	1 1 FY, 2	2 1 1 2008 3	3 2 2 2 4 4 2004	1	1 2 FY 2 2	2 2 2 0009 3	3 2 2 2	2 T Com	o plete	TO 1 1 1 FY:	TAL 6 6 6 2006						
In 2 Out 1 In 1 Out 1 In Out FY 2 & P	Prior 2	FY 20 2	2 1 1 007 3	1 4 4 0003	1	1 1 FY, 2	2 1 1 2008 3	3 2 2 2 4 4 2004 3	1 1	1 2 FY 2 2 1	2 2 2 0009 3	3 2 2 2	2 T Com	o plete	TO 1 1 1 FY:	TAL 6 6 6 2006						
In 2 Out 1 In Out 1 Nav Table Insta	Prior 2	FY 20 2 2 Schedule	2 1 1 07 3 9	1 4 4 0003	1	1 1 FY, 2	2 1 1 2008 3	2004 3 4	1 1 4 6	1 2 FY 2 2 1 1 6	2 2 2 2009 3 FY 2 2	3 2 2 2	2 T Com	o plete	TO 1 1 1 FY:	TAL 6 6 6 2006						
Out 1 1 Out 1 Nav Table Insta FY 2 & P In Out	2 1 1 allation	FY 20 2 Schedule	2 1 1 07 3 9 FY 2 2	3 1 4 4 003 3	1 4	1 1 FY 2	2 1 1 2008 3 FY 2	2004 3 4 3	1 1 4 6 6 6	1 2 FY 2 2 2 1 6 5 FY 2	2 2 2 2 0009 3 FY 2 2 2	3 2 2 2 4 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Z T Com	o plete	TO 1 1 1 1 1 2 2	TAL 6 6 6 3						
Out 1 1 Out 1 Nav Table Insta FY 2 & P In Out	Prior 2	FY 20 2 2 Schedule	2 1 1 07 3 9	1 4 4 0003	1	1 1 FY 2	2 1 1 2008 3 FY 2	2004 3 4	1 1 4 6	1 2 FY 2 2 2 1 1 6 5	2 2 2 2 0009 3 FY 2 2	3 2 2 2	Z T Com	o plete	TO 1 1 1 FY:	TAL 6 6 6 3						
Out 1 1 Out 1 Nav Table Insta FY 2 & P In Out	2 1 1 allation	FY 20 2 Schedule	2 1 1 07 3 9 FY 2 2	3 1 4 4 003 3	1 4	1 1 FY 2	2 1 1 2008 3 FY 2	2004 3 4 3	1 1 4 6 6 6	1 2 FY 2 2 2 1 6 5 FY 2	2 2 2 2 0009 3 FY 2 2 2	3 2 2 2 4 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	2 T Com	o plete	TO 1 1 1 TO 1 TO 1 TO 1 TO 1 TO 1 TO 1	TAL 6 6 6 3						

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	Modified Miniature Receive Terminal (OSIP 10-01)		
MODELS OF SYSTEMS AFFECTED:	E-6A/E-6B	TYPE MODIFICATION:	Obsolescence

DESCRIPTION/JUSTIFICATION: The Air Force E-4B and the Navy E-6B comprise the World Wide Military Command and Control System (WWMCCS) Airborne Resources (WABNRES). They operate within the Nuclear Command and Control System (NCCS) serving principally as a survivable, reliable, endurable airborne command and control communications link between the President, Secretary of Defense and U.S. strategic and non-strategic forces. The WABNRES assets have a requirement to receive very low frequency/low frequency (VLF/LF) Emergency Action Messages (EAMs) and to communicate with one another in a nuclear jamming stressed environment. The Office of the Secretary of Defense (OSD) Strategic C3 Review of 3 September 1991 outlined a new strategic airborne command and control architecture. Key to this revised architecture is a modernization of the E-4B/E-6B VLF/LF capability to include the implementation of the High Data Rate (HIDAR) mode. As stated in the Joint Mission Need Statement for Very Low Frequency (VLF/LF) receive capability for Strategic Command, Control, and Communications, CAF-NAV OPORD 330-92, the current VLF/LF receivers (R-2141) on the E-6B are outdated, and the R-616A cannot be modified to incorporate the HIDAR mode. The Modified Miniature Receive Terminal (MMRT) provides the E-6B with reliable VLF/LF receive capability that will insure interoperability and connectivity with the forces in support of the new Command, Control and Communication (C3) architecture. The MMRT program has been restructured to increase A/C availability, reduce fleet A/C configurations, reduce logistics costs, increase operational flexibility and maximize production effort. Part of the MMRT modification is to add an additional Computer Display, which has become obsolete

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Joint program with Air Force as lead Service. Preliminary Design Review completed. Critical Design Review completed March 1998. Prototype installation achieved October 1999. Contractor Test/Developmental Test achieved November/December 1999. Congress reduced FY00 funding to \$0 due to program slippage. Initial Operational Test and Evaluation complete 24 March 2000. MSIII decision 25 May 2000. Production contract August 2001. Installations to be completed in FY04.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior '	Years	FY 2	2003	FY:	2004	FY	2005	FY:	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
MMRT Install Kit	15	2.7																	15	2.7
Flat Panel			8	0.1	8	0.1													16	0.2
SIL	1	0.2																	1	0.2
Refurbish Kit	1	*																	1	*
Installation Kits N/R				0.1																0.1
Installation Equipment																				
DKU Equip	9	0.2																	9	0.2
Flat Panel			8	0.1	8	0.1													16	0.2
Installation Equipment N/R																				<u> </u>
Engineering Change Orders																				<u> </u>
Data		*																		*
Training Equipment	2	1.2		0.2															2	1.4
Support Equipment																				<u> </u>
ILS		0.2																		0.2
Other Support		0.4		0.3		1.6														2.3
Interim Contractor Support		0.1																		0.1
Installation Cost	2	2.8	12	3	21	2.3													35	7.9
Total Procurement		7.9		3.5		4.1													95	15.5

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. First MMRT installation performed with Air Force RD&T money

Exhil	oit P-3a																							
MOE	ELS OF SY	YSTEMS A	AFFECTE	D:	E-6A/E-6	6B				MOD	IFICATIO	N TITLE:	Modified	Miniatur	e Receive	e Termina	I (OSIP 1	10-01)						
INST	ALLATION	INFORMA	ATION:																					
MET	HOD OF IM	IPLEMEN	TATION:											Contrac	tor Field N	Modification	1							
ADM	INISTRATI	VE LEADT	IME:		1	Months	<u>.</u>			PRODU	CTION LI	EADTIME	:		2		Months	_						
CON	TRACT DA	TES:			FY 2003:		Jui	n-03		·	FY 2004:		No	v-03		_		FY 2005:						
DEL	VERY DAT	E:			FY 2003:		Au	g-03			FY 2004:		Jar	n-04		-		FY 2005:	·					
												(\$ iı	Millions)										i
		Cost:			Years	FY	2003	FY:	2004	FY	2005		2006	FY:	2007	FY 2		FY	2009	To C	omplete		TAL	1
				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	•
	FY 2002 8		cits	1	2.3																	15		•
	FY 2003 (,				2	*	6														8		•
	FY 2004 (8	0.1													8	0.1	•
	FY 2005 (•
	FY 2007 (•
	FY 2008 (•
	FY 2009 (•
	To Comple																							•
	TOTAL			1	2.3	10	2.7	20	2.3													31	7.2	
	Note: Instal			FY 2				FY	2004			FY	2005			FY	2006		1					
	ľ	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	i					
	ln	1	2	2	2	2		3	2	1														
	Out	1	2	2	2	1	1	2	2	2														
		-																	-					
			FY 20	07			FY	2008			FY:	2009		Т	ō									
		1	2	3	4	3	4			1	2	3	4	Com	plete	TO	TAL							
	ln																5							
	Out															1	5	J						
	Flat Panel I	Installation	Schedule	1															_					
	F	FY 2002		FY 2	2003			FY:	2004			FY:	2005			FY 2	2006]					
		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1					
	ln				2		4	4	3	3									1					
	Out				2		4	4	3	3									J					
	-	-																,						
	L		FY 20					2008				2009		1	ō									
		1	2	3	4	3	4			1	2	3	4	Com	plete	TO		1						
	ln																6	4						
	Out															1	6	j						

Exhibit P-3a	Inc	dividual Modification			
MODIFICATION TITLE:	E-6 MISSION SUPPORT (OSIP 07-02)				
MODELS OF SYSTEMS AFFECTED:	E-6A/E-6B		TYPE MODIFICATION:	TYPE MODIFICATION:	Capability

DESCRIPTION/JUSTIFICATION: The program will correct Follow-on Test & Evaluation (FOT&E) (Sep 98) deficiencies by funding for design update and fabrication of new rewind machines, purchase of "off-the-shelf" power carts to provide adequate aircraft power for full mission ground checkout, upgrade of the Frequency Referencing Auto Parallel Unit (FRAPU) to provide uninterrupted transfer of power from A/C to ground systems and replacement of aged Milstar Tactical Access Control (TAC) Batteries to ensure mission capability. There are currently too few rewind machines which are rapidly becoming unsupportable, resulting in the inability to replace the mission antenna at multiple locations when the Long Trailing Wire Antenna is lost. Current power carts do not provide adequate ground power causing system shutdown and failure of critical system components on A/C startup. Loss of Milstar battery power results in loss of Milstar capability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: February 03 procure "off-the-shelf" power carts. February 03 contract award for NRE to update the design of rewind machines, replacing obsolete components with off-the-shelf technology, and start procurement. Additional units will be procured in FY04. FRAPU NRE and fabrication in FY06-FY08 with prototype installation aboard the E-6 A/C and validation/verification in FY06 -- Upgrade complete FY09. Milstar TAC Battery NRE and fabrication for proof of concept in FY08. Purchase for use aboard the E-6 A/C in FY08.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2003	FY	2004	FY	2005	FY 2	2006	FY:	2007	FY	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				ĺ
FRAPU																				
Installation Kits N/R																				ĺ
Installation Equipment																				ĺ
BATTERY TAC																				ĺ
FRAPU																				ĺ
Installation Equipment N/R																				ĺ
Engineering Change Orders																				
Data																				l
Training Equipment																				
Support Equipment			6	6.4	2	2.6														<u> </u>
ILS																				i
Other Support		0.3		0.2		0.1														
Interim Contractor Support																				<u> </u>
Installation Cost																				1
Total Procurement		0.3		6.5		2.8														

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- Includes an Electrical Trainer

Exhibit P-3a																						
MODELS OF S	YSTEMS AI	FFECTED):	E-6A/E-	6B					=	MODI	FICATIO	N TITLE:	E-6 MIS	SION SU	JPPORT (OSIP 07-0	2)				
INSTALLATION	I INFORMA	TION:																				
METHOD OF IN	MPLEMENT.	ATION:														Fi	ield Modifica	ation				
ADMINISTRATI	IVE LEADTI	ME:					Months	<u>š</u>			PRODUC	CTION L	EADTIM	E:				Months		=		
CONTRACT DA	ATES:	I	FY 2003:					_	FY 2004:					_	FY 2005:	:					_	
DELIVERY DAT	ΓE:	1	FY 2003:					_	FY 2004:					_	FY 2005:	: <u></u>					_	
														(\$ i	n Millions	s)						
	Cost:		Prior	Years	FY	2003	F١	Y 2004	FY	2005	FY 2	2006	FY	2007	FY	2008	FY 2	2009	To Co	omplete	TO	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2002	2 & PY () ki	ts					1	1	T				1									
FY 2003	3 () kits					1	1	1	1		1		1	1		1						
FY 2004	4 () kits																					
FY 2005						1	1	1	1		1		1	1		1						
FY 2006	6 () kits																					
FY 2007						1	1	1	1		1		1	1		1						
FY 2008	8 () kits																					
FY 2009																						
To Com	plete () kits	3									1											
TOTAL									T		1			1		1						
	nstall dollars AC Batteries						nstall Kits	or Installs														
Installation Scho	edule: FRAF	PU																				
	FY 2002		FY 2	2003			FY	Y 2004			FY 2	005		1	FY	2006						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In									T													
Out																						
<u>-</u>																	_					
		FY 20	007			FY	Y 2008		T	FY 2	2009		7	То								
	1	2	3	4	1	2	3	4	1	2	3	4	Com	nplete	TC	OTAL						
In																	1					
Out									1								1					
																	_					

Exhibit P-3a		Individual Modification			
MODIFICATION TITLE:	Correction of Safety Deficiencies				
MODELS OF SYSTEMS AFFECTED:	E-6/E-6A		TYPE MODIFICATION:	TYPE MODIFICATION:	Capability

DESCRIPTION/JUSTIFICATION: Correction of safety deficiencies for the protection of personnel and equipment. FAA APA 19-98 requires a smoke detection system in the aircraft lower avionics bays. The safety modification also replaces fuel tank Kapton wiring and an uncertified Cartridge Activated Device (CAD) (explosive) for severing the Long Trailing Wire Antenna under emergency conditions, installs new improved inertia reels and shoulder harnesses, provides the ability to transmit from the second Reel Operator's Intercom Communication System (ICS) position, replaces unsafe fuel boost pumps and corrects safety deficiencies in the aircraft auxiliary power unit. The program takes advantage of available and emerging commercial technology for crew/aircraft safety.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: ECP to modify existing equipment -- Contract awarded FY03 for APU, inertia reels and fuel boost pump. NRE for CAD completed in FY03 with fabrication and installation to take place in FY04 and FY05.

FINANCIAL PLAN: (TOA, \$ in Millions)

		Years	FY 2		FY 2			2005		2006		2007		2008		2009		mplete		otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
Smoke Detector					5	*	11	*												
Kapton Wire Fuel Pump																				
Reel Ops																				
APU			16	0.4																
Fuel Boost Pumps			16	0.7																
Installation Kits N/R		0.2				0.2														
Installation Equipment																				
Smoke Detector					5	0.4	11	0.8												
Kapton Wire Fuel Pump																				
HPTS CAD Cutters					16	1.0														
Reel Ops																				
Inertia Reels			16	0.4																
Installation Equipment N/R				0.8		1.0														
Engineering Change Orders																				
Data				0.0		*		*												
Training Equipment					3	0.2		*												
Support Equipment						*														
ILS						0.2		0.2												
Other Support		0.2		0.6		0.2		0.2												
Interim Contractor Support						*														
Installation Cost					12	1.1	18	1.1												
Total Procurement		0.4		3.0		4.2		2.3												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. No installs required for Fuel Boost Pumps and APU

Exhibit P-3a				
MODELS OF SYSTEMS AFFECTED:	E-6A/E-6B	MODIFICATION TITLE: Correction	o Of Safety Deficiencies (OSIP 08	3-02)
INSTALLATION INFORMATION:				
METHOD OF IMPLEMENTATION:			Field Modification	
ADMINISTRATIVE LEADTIME:	1 Months_	PRODUCTION LEADTIME:	Various Month	s
CONTRACT DATES:	FY 2003: Various	FY 2004: Various	FY 2005:	Nov-04
DELIVERY DATE:	FY 2003: Various	FY 2004: Various	FY 2005:	Apr-05

Cost:	Prior	Years	FY:	2003	FY 2	2004	FY:	2005	FY	2006	FY:	2007	FY:	2008	FY:	2009	To Co	mplete	TC	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2002 & PY () kits																				
FY 2003 () kits																				
FY 2004 () kits					9	0.8	12	0.8												
FY 2005 () kits							6	0.3												
FY 2006 () kits																				
FY 2007 () kits																				
FY 2008 () kits																				
FY 2009 () kits																				
To Complete () kits																				
TOTAL					9	0.8	18	1.1												

Note: 1. Does not include 4 Trainers.

Smoke Detectors

	FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										2	3	3	3				
Out										2	3	3	3				

		FY 20	007		FY 2	2008			FY 2	2009		То	
	1	2	3	4		3	4	1	2	3	4	Complete	TOTAL
In													
Out													

Reel Ops	
----------	--

	FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																	
Out																	

		FY 20	007		FY 2	2008			FY 2	2009		То	
	1	2	3	4		3	4	1	2	3	4	Complete	TOTAL
In													
Out													

HPTS CAD Cutters

	FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							3	3	3	3	3	1					
Out							3	3	3	3	3	1					

		FY 20	007		FY 2	2008			FY 2	2009		То	
	1	2	3	4		3	4	1	2	3	4	Complete	TOTAL
In													16
Out													16

Kapton Wire Fuel Pump

	FY 2002		FY 2	003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																	
Out																	

		FY 20	007		FY 2	2008			FY 2	2009		То	
	1	2	3	4		3	4	1	2	3	4	Complete	TOTAL
In													
Out													

Exhibit P-3a	Individual Modification

MODIFICATION TITLE: Technology Insertion (OSIP 03-04)

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B TYPE MODIFICATION: TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Funding to fix supportability/obsolescence issues, address interoperability issues, update systems and insert new technologies into the E-6 platform. With the E-6's 35 individual computer based communications and mission systems, Technology Insertion addresses supportability, new technologies, systems updates and interoperability issues in the areas of: Mission Computer Set (MCS) hardware obsolescence, Video C4I for live Battlestaff conferencing, Morse code to ASCII text conversion, and the installation of Range Mode Extension (REM) in the MMRT for VLF community compatibility. The MCS is rapidly becoming unsupportable. Intervention is required to ensure this mission critical system continues to operate. Providing video conferencing for the Battlestaff supports required Network Centric Warfare real time data relay and decision-making processes. The E-6 is required to relay Morse code transmissions from the Strategic Submarine Forces to Command Level decision makers in the text readable format to be supplied by the Morse code to ASCII converter. The installation of REM into MMRT ensures E-6 communications compatibility with the remainder of the VLF community.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FY04 contract awards for NRE to update MCS hardware and software with kit buy and installation beginning in FY06 and completing in FY07. Morse Code conversion NRE contract in FY06 with fabrication and installation in FY06. C4I NRE contract in FY06 with fabrication in FY09.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2003		FY 2004		FY 2005		FY:	2006	FY:	2007	FY	2008	FY2	2009		mplete		otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
HF Morse Converter																				
C4I																				
REM																				
LAB																				
SIL																				
UPS																				
Installation Kits N/R																				
Installation Equipment																				
HF Morse Converter																				
C4I																				
REM																				
LAB																				
SIL																				
MCS																				
Auto DIN Modem																				
Auto DIN Mode-1																				
FMCS																				
UPS																				
Installation Equipment N/R						1.9		1.7												
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support						0.1		0.1												_
Interim Contractor Support																				<u> </u>
Installation Cost																				
Total Procurement	I	1		1		2.1		1.8						1		1		1		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. MCS require no Installation Kits.
- 4. Includes SIL and MAS trainers

P-3a																								
S OF SYST	ΓEMS AFFE	CTED:		E-6A/E-	6B			_	MODI	FICATIO	N TITLE:	Techno	logy Inse	rtion (OS	P 03-04)									
LATION INF	FORMATIO	N:																						
D OF IMPL	EMENTATI	ON:													Fi	eld Modifi	cation							
	LEADTIME				Montho				BBODI	ICTION L	EADTIM	ıc.				Months								
					Months													-						
ACT DATES	S:	ı	FY 2002:			-	I	FY 2003:					_			ı	FY 2004:				-		FY 2005:	
RY DATE:		- 1	FY 2002:			-	1	FY 2003:					_			- 1	FY 2004:	:			-		FY 2005:	
														fillions)									7	
	Cost:		Prior Qty	Years \$	FY:	2003	FY: Qty	2004	FY Qty	2005	FY Qty	2006	FY Qty	2007	FY 2 Qty	2008	FY Qty	2009	To Co Qty	mplete \$	Qty	TAL \$	-	
	2 & PY () ki	its																					<u> </u>	
FY 2003								<u> </u>															4	
FY 2004																	ļ				ļ		4	
FY 2005								 															1	
FY 2007								1																
FY 2008	8 () kits]	
FY 2009																							1	
	nplete () kits	3		<u> </u>		<u> </u>		<u> </u>					<u> </u>	ļ								<u> </u>	4	
TOTAL	CS do not re												l						<u> </u>				1	
MCS	FY 2002		FY 2	2003			FY:	2004			FY	2005			FY 2	2006]						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
In Out													1											
Out	ш.											1					1	j						
		FY 20	007		1	FY	2008			FY	2009		T -	Го			1							
	1	2	3	4			3	4	1	2	3	4		nplete	TO	TAL								
In																	1							
Out																								
UPS																								
	FY 2002		FY 2	2003			FV	2004			F۷	2005			FY 2	2006		7						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1						
In]						
Out																								
· ·																								
	<u> </u>	FY 20				FY	2008				2009			Го										
i.	1	2	3	4			3	4	1	2	3	4	Con	nplete	TO	IAL	1							
Out	+							<u> </u>				-	-				1							
Out	1 1			1		1	1			1	l	1	1				1							
C4I																								
	FY 2002		FY 2		1			2004	1			2005			FY 2		1]						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	-						
In Out	1 1			 		-								 										
Out			l	1	l		1	Щ_	l		l	1	1				L	J						
		FY 20	007			FY	2008			FV ·	2009			Го			1							
	1	2	3	4			3	4	1	2	3	4		nplete	TO	TAL								
In																	1							
Out																								

	FY 2002 FY 2003 & Prior 1 2 3 4						FY 2004					2005				FY 20	006	
		1			4	1	2	3	4	1	2	3	4	1		2	3	4
In																		
Out																		
				•	•						•					•		
		FY 2				FY 2008					2009			To				1
	1	1 2 3 4		4			3	3 4		2	3	4	4 Cor			TOTAL		
In																		
Out																		
In	FY 2002 & Prior	1	FY 2	3	4	1	FY 2	3	4	1	FY 2	2005	4	1		FY 20	3	4
Out																T I		
								1				1		-	- 1			
		FY 2	007			FY	2008			FY	2009			To				1
	1	2	3	4			3	4	1	2	3	4	Co	mplete		TOT	AL	
In																		
Out																		
REM	FY 2002		FY 2	2003			FY	2004			FY	2005				FY 20	006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1		2	3	4
In																		
Out																		
i	-												_					
		FY 2				FY	2008				2009			To				
	1	2	3	4	<u> </u>		3	4	1	2	3	4	Co	mplete	4	TOT	AL	
In																		